

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by:

The U.S. Department of the Army,

Camp Bonneville Military Reservation
Proebstel, Washington

ENFORCEMENT ORDER

No. 03TCPHQ-5286

TO: U.S. Department of the Army
c/o Col. Luke Green
Garrison Commander
I Corps and Fort Lewis
MS 1AA, Box 339500
Fort Lewis, WA 98433-9500

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1 **I. JURISDICTION**

2 1.1 This Enforcement Order (Order) is issued pursuant to the authority of RCW
3 70.105D.050(1) and the authority of chapter 70.105 RCW and WAC 173-303-646(3)(a).
4

5 **II. FINDINGS OF FACT**

6 2.1 The Camp Bonneville Military Reservation (“the Site”) is located in Clark
7 County, Washington, approximately twelve (12) miles northeast of the center of the City of
8 Vancouver. The term “Site” means the same as “facility” as defined at RCW 70.105D.020(4).
9 The Site lies along both banks of Lacamas Creek and occupies 3,840 acres, which includes 820
10 acres leased from the Washington Department of Natural Resources. The Site includes all
11 potentially contaminated areas within the current and previous property boundaries of the Camp
12 Bonneville Military Reservation, as well as any areas outside of these property boundaries where
13 hazardous substances originating from within these property boundaries may have come to be
14 located. The Site is illustrated in Attachment A, attached hereto.

15 2.2 The United States War Department and its successor agency, the Department of
16 Defense, has owned and operated the Camp Bonneville Military Reservation for military training
17 since 1909. Units of the Army, Army Reserve, Marine Corps Reserve, Navy Reserve, Coast
18 Guard Reserve, and National Guard have trained on the Site. The Site has also been used by
19 Federal, State, and local law enforcement agencies for small arms training. A small arms range
20 on the Site is operated by the Federal Bureau of Investigation. The Site was placed on the Base
21 Realignment and Closure (BRAC) list and closed in 1995. At the present time, the Site is under
22 the control and authority of the garrison commander of Fort Lewis.

23 2.3 Between 1909 and 1995, unused military munitions, both live and practice, were
24 stored at the Camp Bonneville Military Reservation. These unused military munitions included
25 artillery ammunition, mortar ammunition, air-launched rockets, shoulder-fired rockets, guided
26 missiles, bombs, land mines (practice only), grenades, fuses, and small arms ammunition. Some

1 of these military munitions were disposed of at the Site by open burning or open detonation
2 (OB/OD).

3 2.4 Between 1909 and 1995, military munitions, both live and practice, were used at
4 the Camp Bonneville Military Reservation. These used military munitions included artillery
5 ammunition, mortar ammunition, shoulder-fired rockets, land mines (practice only), grenades,
6 and small arms ammunition. These military munitions were primed, fused, armed, or otherwise
7 prepared for action, and then fired, launched, projected, or placed at or on the Camp Bonneville
8 Military Reservation.

9 A. Some of the military munitions used at the Camp Bonneville Military Reservation
10 exploded, fragmenting the munitions.

11 B. Some of the military munitions used at the Camp Bonneville Military Reservation
12 did not explode, either by malfunction, design, or some other cause. These
13 munitions are referred to as “unexploded ordnance” or “UXO”.

14 2.5 At least eight firing ranges at the Camp Bonneville Military Reservation had
15 safety fans that extended beyond the property boundary of the Reservation. Between 1909 and
16 1995, military munitions were used at those firing ranges. Some of the military munitions used
17 at those firing ranges, including 105 and 155 millimeter artillery and 4.2 mortar projectiles, had
18 ranges that extended beyond the property boundary of the Reservation. Based on these findings
19 of fact, there is a possibility that military munitions may have landed off-range, beyond the
20 property boundary of the Reservation. These used military munitions may include both
21 unexploded ordnance (UXO) and the fragments and constituents of exploded munitions.

22 2.6 Between 1909 and 1995, some of the used military munitions at the Camp
23 Bonneville Military Reservation, including both unexploded ordnance (UXO) and munitions
24 fragments, were recovered and collected, and then disposed of at the Site by open burning or
25 open detonation (OB/OD).

1 2.7 Several areas throughout the Camp Bonneville Military Reservation were used for
2 the disposal of military munitions. At least three areas of the Site were used for the disposal of
3 military munitions by open burning or open detonation (OB/OD).

4 2.8 At the time the Camp Bonneville Military Reservation was closed in 1995, some
5 of the military munitions used during military activities, including both unexploded ordnance
6 (UXO) and the fragments and constituents of exploded munitions, were left in place at the Site.

7 2.9 Between 1909 and 1995, diesel fuel, fuel oil, pesticides, solvents, lead and
8 chromium-containing paint, and other hazardous materials were also used at the Camp
9 Bonneville Military Reservation.

10 2.10 Investigations since 1995 by the Army and its contractors at the Camp Bonneville
11 Military Reservation have shown that these historical military and maintenance operations have
12 resulted in the presence of the following substances at the Site:

- 13 A. The presence of diesel fuel, fuel oil, pesticides, and xylenes in the soil;
- 14 B. The presence of volatile organic compounds, including 1,1,1-trichloroethane, in
15 the soil and ground water;
- 16 C. The presence of military munitions used or disposed of at the Site, including
17 explosives, unexploded ordnance (UXO), munitions, and munitions fragments, in
18 the soil;
- 19 D. The presence of the constituents of those military munitions, including the
20 explosive compound RDX, in the soil and ground water.

21 2.11 Military munitions have been found in several areas throughout the Camp
22 Bonneville Military Reservation. Because of the historical military and maintenance operations
23 described above, including the storage, use, and disposal of military munitions, the presence of
24 additional military munitions is strongly suspected. Because forests were located within several
25 of the firing ranges when they were active, Ecology also has reason to believe that some of the
26

1 military munitions used at those ranges are embedded in the trees located within those firing
2 ranges.

3 2.12 People live adjacent to the Camp Bonneville Military Reservation and rely on
4 ground water as a source of drinking water. The Site is also inhabited by numerous species of
5 wildlife and borders both sides of Lacamas Creek, which is a tributary of the Columbia River.

6 2.13 The foregoing information is contained in the following documents:

- 7 A. Hart Crowser, Inc., *Petroleum Contaminated Soil Investigation, Former*
8 *Tank No. 7-CMBPN, Building No. 4475, Camp Bonneville, Vancouver,*
9 *Washington, Contact No. DACA67-93-D-1004, Delivery Order No. 53,*
10 *September 11, 1996.*
- 11 B. Woodward-Clyde Federal Services, *Final Environmental Baseline Survey*
12 *Report, Camp Bonneville, Washington, Contract No. DACA67-95-D-*
13 *1001, January 30, 1997.*
- 14 C. Hart Crowser, Inc., *Final Lead-Based Paints and Soil-Metals Survey*
15 *Report, Camp Bonneville, Washington, Contract No. DACA67-93-D-*
16 *1004, Delivery Order No. 49, February 28, 1997.*
- 17 D. Hart Crowser, Inc., *Pre-Demolition Survey, CS Gas Chamber Building,*
18 *Camp Bonneville, Vancouver, Washington, Contract No. DACA67-93-D-*
19 *1004, Delivery Order No. 52, February 28, 1997.*
- 20 E. U.S. Army Corps of Engineers, *U.S. Department of Defense Program*
21 *Base Realignment and Closure Ordnance, Ammunition and Explosives*
22 *Final Archives Search Report – Report Plates, Camp Bonneville, Clark*
23 *County, Washington, July 1997.*
- 24 F. U.S. Army Corps of Engineers, *U.S. Department of Defense Program*
25 *Base Realignment and Closure Ordnance, Ammunition and Explosives*
26

1 *Final Archives Search Report – Conclusions and Recommendations,*
2 *Camp Bonneville, Clark County, Washington, July 1997.*

3 G. U.S. Army Corps of Engineers, *U.S. Department of Defense Program*
4 *Base Realignment and Closure Ordnance, Ammunition and Explosives*
5 *Final Archives Search Report – References, Camp Bonneville, Clark*
6 *County, Washington, July 1997.*

7 H. Prezant Associates, Inc., *Final Asbestos Surveys Report, Camp*
8 *Bonneville, Vancouver, Washington, Volumes I-III, Contract No.*
9 *DACA67-95-D-1018, Delivery Order No. 4, November 7, 1997.*

10 I. Cecon Corporation, *Drain Line and PCS Removal, Final Report, Camp*
11 *Bonneville, Vancouver, Washington, Contract No. DACA67-96-M-0890,*
12 *December 1997.*

13 J. UXB International, Inc., *Removal Report Ordnance and Explosive (OE)*
14 *Sampling, Camp Bonneville, Vancouver, Washington, Contract No.*
15 *DACA87-97-D-006, Delivery Order No. 10, August 31, 1998.*

16 K. Shannon & Wilson, Inc., *Final Multi-Sites Investigation Report, Camp*
17 *Bonneville, Vancouver, Washington, Volumes 1-5, Contact No. DACA67-*
18 *94-D-1014, Delivery Order Numbers 10 and 17, July 1999.*

19 L. URS Greiner Woodward Clyde, *Final Supplemental Archive Search*
20 *Report, Camp Bonneville, Vancouver, Washington, Contract No.*
21 *DACA67-98-D-1005, Delivery Order No. 3, August 15, 1999.*

22 M. Shannon & Wilson, Inc., *Final Landfill 4 Investigation Report, Camp*
23 *Bonneville, Washington, Contract No. DACA67-94-D-1014, August 1999.*

24 N. Gary Struthers Associates, Inc., *Final Closure Report, Environmental*
25 *Restoration, Multi-Sites, Camp Bonneville, Washington, Contract No.*
26 *DACA67- 95-G-0001, Task Order 58, February 2001.*

- 1 O. Hart Crowser, Inc., *Final Project Completion Report, Surface Water*
2 *Investigation of Lacamas Creek and Tributaries, Camp Bonneville,*
3 *Vancouver, Washington,* Contract No. DACA67-98-D-1008, Delivery
4 Order No. 20, March 10, 2000.
- 5 P. U.S. Army Corps of Engineers, *Final GIS-Based Historical Time*
6 *Sequence Analysis, Camp Bonneville, Washington,* August 2000.
- 7 Q. URS Greiner Woodward Clyde, *BRAC HTRW Site Closure Report for*
8 *Landfills 1, 2, and 3; Former Burn Area; Buildings 1962 and 1963;*
9 *Grease Pits at the Camp Bonneville and Camp Killpack Cantonments;*
10 *Former Sewage Pond; and Hazardous Materials Accumulation Point,*
11 *Camp Bonneville, Washington,* Contract No. DACA67-98-D-1005,
12 Delivery Order No. 43, September 2000.
- 13 R. UXB International, Inc., *Final Removal Report, Ordnance and Explosive*
14 *Removal Action, Camp Bonneville, Vancouver, Washington,* Contract No.
15 DACA87-97-D-006, Delivery Order No. 13, October 12, 2000.
- 16 S. Parsons Engineering Science, Inc., *Final Reconnaissance Work Plan,*
17 *Additional Site Characterization, Camp Bonneville, Vancouver,*
18 *Washington,* October 2001.
- 19 T. Gary Struthers Associates, Inc., *Final Closure Report, Environmental*
20 *Restoration, Pesticide Building #4126 and Ammunition Bunkers #2953,*
21 *#2951 and #2950, Camp Bonneville, Washington,* Contract No. DACA67-
22 95-G-0001 T.O.58, December 2001.
- 23 U. Parsons Environmental, *Draft Reconnaissance Results, Small Arms*
24 *Ranges, Camp Bonneville, Vancouver, WA,* Contract No. DACA87-95-D-
25 0018, January 2002.
- 26

V. Gary Struthers Associates, Inc., *Final Closure Report, Environmental Restoration, Drum Burial Area, Camp Bonneville, Washington*, Contract No. DACA67-95-G-0001 T.O. 58, April 2002.

III. ECOLOGY DETERMINATIONS

Determinations under the Model Toxics Control Act (MTCA)

3.1 The U.S. Department of the Army (Army) is an "owner or operator" as defined at RCW 70.105D.020(12) of a "facility" as defined in RCW 70.105D.020(4).

3.2 The facility is known as Camp Bonneville Military Reservation ("the Site") and is located adjacent to Proebstel, Washington, twelve miles northeast of Vancouver, Washington.

3.3 The substances found at the facility as described above are "hazardous substances" as defined at RCW 70.105D.020(7).

3.4 Based on the presence of these hazardous substances at the facility and all factors known to the Department of Ecology (Ecology), there are releases and threatened releases of hazardous substances from the facility, as defined at RCW 70.105D.020(20).

3.5 The releases and threatened releases of hazardous substances from the facility pose a threat to human health and the environment.

3.6 By letter dated July 1, 2002, Ecology notified the Army of its status as a "potentially liable person" under RCW 70.105D.040 after notice and opportunity for comment.

3.7 Pursuant to RCW 70.105D.030(1) and 70.105D.050, Ecology may require potentially liable persons to investigate or conduct other remedial actions with respect to the releases and threatened releases of hazardous substances, whenever it believes such action to be in the public interest.

3.8 Based on the foregoing facts, Ecology believes the remedial action required by this Order is in the public interest.

1 **Determinations under the Hazardous Waste Management Act (HWMA)**

2 3.9 The Army is a “person” as defined at RCW 70.105.010(7).

3 3.10 The Army is the “owner” and “operator” as defined in WAC 173-303-040 of a
4 “facility” as defined at RCW 70.105.010(11) and in WAC 173-303-040.

5 3.11 The facility is known as the Camp Bonneville Military Reservation (“the Site”) and
6 is located adjacent to Proebstel, Washington, twelve miles northeast of Vancouver, Washington.

7 3.12 The military munitions located at the facility are “solid wastes” as defined in
8 WAC 173-303-016(3) and Section 7.1 of this Order.

9 3.13 The military munitions located at the facility are also “dangerous wastes” and/or
10 “dangerous constituents” as defined in RCW 70.105.010(5) and WAC 173-303-040, and in
11 Section 7.1 of this Order.

12 3.14 Based on the presence of these military munitions at the facility and all factors
13 known to Ecology, there are releases and threatened releases of dangerous wastes and/or
14 dangerous constituents from the facility, as defined in WAC 173-303-040.

15 3.15 Based on the releases and threatened releases of dangerous wastes and/or
16 dangerous constituents from the facility, the military munitions located at the facility are subject
17 to corrective action under WAC 173-303-646.

18 3.16 Pursuant to WAC 173-303-646, Ecology may require the owners or operators of
19 the facility to conduct corrective actions with respect to the releases and threatened releases of
20 dangerous wastes and/or dangerous constituents, as necessary to protect human health and the
21 environment.

22 3.17 Based on the foregoing facts, Ecology believes the corrective action required by
23 this Order is necessary to protect human health and the environment.
24
25
26

IV. REMEDIAL ACTION UNITS

4.1 For the purpose of directing remedial action at the Site, the Site shall be administratively divided into three remedial action units. The second remedial action unit shall be further administratively divided into three subunits. These remedial action units are described below and illustrated in Attachments B through F, attached hereto.

A. Remedial Action Unit 1 (RAU 1) consists of the 20 areas at the Site identified and illustrated in Attachment B, where hazardous substances other than military munitions have been located and independent remedial actions undertaken by the Army.

B. Remedial Action Unit 2 (RAU 2) consists of the areas at the Site identified and illustrated in Attachments C through E, where hazardous substances have been located, but not addressed through remedial action. RAU 2 shall be administratively divided into three subunits, identified and described below.

(1) Remedial Action Unit 2A (RAU 2A) consists of the 21 small arms range areas identified and illustrated in Attachment C, and addresses any lead or other contamination associated with those areas and any risks to human health and the environment associated with such contamination.

(2) Remedial Action Unit 2B (RAU 2B) consists of Demolition Areas 2 and 3, identified and illustrated in Attachment D, and addresses any contamination associated with those areas and any risks to human health and the environment associated with such contamination.

(3) Remedial Action Unit 2C (RAU 2C) consists of Landfill Area 4 and Demolition Area 1, identified and illustrated in Attachment E, and addresses any contamination associated with those areas and any risks to human health and the environment associated with such contamination.

1 C. Remedial Action Unit 3 (RAU 3) consists of any area at the Site where military
2 munitions have come to be located and addresses any contamination associated
3 with those areas and any risks to human health and the environment associated
4 with such contamination. RAU 3 is identified and illustrated in Attachment F.

5 4.2 Ecology may require a subdivision or a combination of the remedial action units
6 defined in this Order. Ecology may also require the creation of additional remedial action units.
7 Any such requirement will become an integral and enforceable part of this Order.
8

9 V. STATUS OF REMEDIAL ACTIONS

10 5.1 After the BRAC Commission identified the Camp Bonneville Military
11 Reservation for closure in 1995, the Army conducted several site investigations and archive
12 searches to identify releases or threatened releases of hazardous substances throughout the Site.
13

14 Remedial Action Unit 1

15 5.2 In 1997, based on the initial site investigations and archive searches, the Army
16 identified releases and threatened releases of hazardous substances at the 20 areas comprising
17 RAU 1. From August 1996 to July 1999, the Army conducted several remedial investigations of
18 those areas. In 1999 and 2000, the Army conducted several independent cleanup actions to
19 address the contamination identified during those remedial investigations.

20 5.3 The Army is currently developing a draft Cleanup Action Plan (CAP) for RAU 1.
21 The draft CAP will describe the investigations and cleanup actions conducted and the results of
22 those investigations and actions. The draft CAP will also describe whether further action is
23 required and the nature of any such action.
24
25
26

1 **Remedial Action Unit 2A**

2 5.4 In 1997, based on the initial site investigations and archive searches, the Army
3 identified releases and threatened releases of hazardous substances at the 21 small arms ranges
4 comprising RAU 2A. In November 2001, the Army conducted additional investigations to better
5 define the location and geographic characteristics of the small arms ranges. The Army is
6 currently developing both a draft Interim Action Work Plan and a draft final MTCA Remedial
7 Investigation Work Plan for RAU 2A.

8
9 **Remedial Action Unit 2B**

10 5.5 In 1997, based on the initial site investigations and archive searches, the Army
11 identified releases and threatened releases of hazardous substances at Demolition Area 2 and
12 Demolition Area 3, the two open burning / open detonation (OB/OD) areas comprising RAU 2B.
13 The Army is currently developing the draft final MTCA Remedial Investigation Work Plan for
14 RAU 2B.

15
16 **Remedial Action Unit 2C**

17 5.6. In 1997, based on the initial site investigations and archive searches, the Army
18 identified releases and threatened releases of hazardous substances at Landfill Area 4 /
19 Demolition Area 1, the area comprising RAU 2C. In August 1999, the Army conducted several
20 additional investigations. The Army is currently developing a draft Interim Action Work Plan
21 for RAU 2C.

22
23 **Remedial Action Unit 3**

24 5.7 In 1997, based on the initial site investigations and archive searches, the Army
25 determined that military munitions, including unexploded ordnance (UXO), are present in
26 several areas throughout the Site. In 1998, the Army conducted an initial investigation of the

1 Site to determine the nature and extent of UXO. As a result of this investigation, the Army
2 conducted a time-critical removal action on a 19-acre area consisting of two former M203,
3 40mm grenade launcher ranges.

4 5.8 In November 1998, the Army submitted to Ecology and the U.S. Environmental
5 Protection Agency (EPA) a draft Engineering Evaluation and Cost Analysis (EE/CA) report.
6 This report identified locations of UXO, the hazards associated with UXO, the risks posed by
7 UXO to future users of the land, and risk management alternatives, including a description of the
8 effectiveness and cost of those alternatives. The Army submitted a second draft to Ecology and
9 EPA in April 1999. Ecology and EPA determined that there was insufficient data to support an
10 EE/CA and requested that additional remedial investigations be conducted.

11 5.9 In 2001, the Army conducted a geophysical systems prove-out to select the
12 preferred equipment for conducting investigations and clearance. The Army also conducted
13 additional UXO reconnaissance efforts (remedial investigations), including an instrument-aided
14 reconnaissance and a level 1 screening, to further define areas of concern (AOC) and to further
15 evaluate areas of potential concern (AOPC). The first phase of the instrument-aided
16 reconnaissance was completed in 2001. In October 2002, the Army completed the work plan
17 for the second phase of the instrument-aided reconnaissance.¹ The Army is currently conducting
18 the reconnaissance pursuant to that work plan. That work plan is hereby incorporated by
19 reference and is an integral and enforceable part of this Order.

20 21 **Investigation and Monitoring of Site-Wide Ground Water**

22 5.10 To help determine whether on-site ground water contamination has migrated
23 beyond the property boundary of the Camp Bonneville Military Reservation, the Army is
24 currently finalizing a Site-Wide Ground Water Investigation Work Plan to analyze ground water

25 ¹ Parsons, *Final Reconnaissance Work Plan Addendum, Site Characterization, Camp Bonneville,*
26 *Vancouver, Washington*, Contract No. DACA87-00-D-0038, Delivery Order 0017, October 2002.

1 at the property boundary of the Camp Bonneville Military Reservation using sentinel wells. In
2 December 2002, the Army installed four monitoring well pairs at the western property boundary
3 near Lacamas Creek.
4

5 **VI. WORK TO BE PERFORMED**

6 6.1 Based on the foregoing Facts and Determinations, it is hereby ordered that the
7 Army take the following remedial actions and that these actions be conducted in accordance with
8 chapter 173-340 WAC and WAC 173-303-646 unless otherwise specifically provided for herein.
9

10 **Remedial Deliverables and Schedule**

11 6.2 The Army shall submit the following deliverables in support of **interim actions**
12 for Ecology review and approval in accordance with the schedule shown below:

- 13 A. Draft Interim Action Work Plan for RAU 2A, described in Section 6.26, submitted
14 to Ecology within sixty (60) calendar days of the effective date of this Order.
- 15 B. Draft Interim Action Work Plan for RAU 2C, described in Section 6.27, submitted
16 to Ecology within sixty (60) calendar days of the effective date of this Order.

17 6.3 The Army shall submit the following deliverables in support of **RAU 1** for
18 Ecology review and approval in accordance with the schedule shown below:

- 19 A. Draft Cleanup Action Plan (CAP) submitted to Ecology within thirty (30)
20 calendar days of the effective date of this Order.
- 21 B. If required pursuant to chapter 173-340 WAC, then a draft Compliance
22 Monitoring Plan shall be submitted to Ecology within thirty (30) calendar days of
23 the issue date of the final CAP for RAU 1.
- 24 C. If required pursuant to chapter 173-340 WAC, then a draft Operation and
25 Maintenance Plan shall be submitted to Ecology within six (6) months of the
26 issue date of the final CAP for RAU 1.

1 D. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control
2 Plan shall be submitted to Ecology within six (6) months of the issue date of the
3 final CAP for RAU 1.

4 6.4 The Army shall submit the following deliverables in support of **RAU 2A** for
5 Ecology review and approval in accordance with the schedule shown below:

- 6 A. Draft Final MTCA Remedial Investigation (RI) Work Plan, described in Section
7 6.16, submitted to Ecology within thirty (30) calendar days of the effective date
8 of this Order.
- 9 B. Draft Field Work Report submitted to Ecology within thirty (30) calendar days of
10 the completion of field work for RAU 2A.
- 11 C. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted
12 to Ecology within five (5) months of the issue date of the final Field Work Report
13 for RAU 2A.
- 14 D. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar
15 days of the issue date of the final MTCA RI/FS Report for RAU 2A.
- 16 E. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)
17 calendar days of the issue date of the final CAP for RAU 2A.
- 18 F. If required pursuant to chapter 173-340 WAC, then a draft Operation and
19 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue
20 date of the final CAP for RAU 2A.
- 21 G. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control
22 Plan shall be submitted to Ecology within one (1) year of the issue date of the
23 final CAP for RAU 2A.
- 24 H. Draft Cleanup Action Report, described in Section 6.29, submitted to Ecology
25 within thirty (30) calendar days of completion of the cleanup action
26 (demobilization) for RAU 2A.

1 6.5 The Army shall submit the following deliverables in support of **RAU 2B** for
2 Ecology review and approval in accordance with the schedule shown below:

- 3 A. Draft Final MTCA Remedial Investigation (RI) Work Plan, described in Section
4 6.16, submitted to Ecology within thirty (30) calendar days of the effective date
5 of this Order.
- 6 B. Draft Field Work Report submitted to Ecology within thirty (30) calendar days of
7 the completion of field work for RAU 2B.
- 8 C. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted
9 to Ecology within five (5) months of the issue date of the final Field Work Report
10 for RAU 2B.
- 11 D. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar
12 days of the issue date of the final MTCA RI/FS Report for RAU 2B.
- 13 E. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)
14 calendar days of the issue date of the final CAP for RAU 2B.
- 15 F. If required pursuant to chapter 173-340 WAC, then a draft Operation and
16 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue
17 date of the final CAP for RAU 2B.
- 18 G. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control
19 Plan shall be submitted to Ecology within one (1) year of the issue date of the
20 final CAP for RAU 2B.
- 21 H. Draft Cleanup Action Report, described in Section 6.29, submitted to Ecology
22 within thirty (30) calendar days of completion of the cleanup action
23 (demobilization) for RAU 2B.

1 6.6 The Army shall submit the following deliverables in support of **RAU 2C** for
2 Ecology review and approval in accordance with the schedule shown below:

- 3 A. Draft MTCA Remedial Investigation (RI) Work Plan, described in Section 6.16,
4 submitted to Ecology within sixty (60) calendar days of the completion of the
5 interim action (demobilization) for RAU 2C (see Section 7.28).
- 6 B. Draft Field Work Report submitted to Ecology within thirty (30) calendar days of
7 the completion of field work for RAU 2C.
- 8 C. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted
9 to Ecology within six (6) months of the issue date of the final Field Work Report
10 for RAU 2C.
- 11 D. Draft Cleanup Action Plan (CAP) submitted to Ecology within thirty (30)
12 calendar days of the issue date of the final MTCA RI/FS Report for RAU 2C.
- 13 E. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)
14 calendar days of the issue date of the final CAP for RAU 2C.
- 15 F. If required pursuant to chapter 173-340 WAC, then a draft Operation and
16 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue
17 date of the final CAP for RAU 2C.
- 18 G. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control
19 Plan shall be submitted to Ecology within one (1) year of the issue date of the
20 final CAP for RAU 2C.
- 21 H. Draft Cleanup Action Report, described in Section 6.29, submitted to Ecology
22 within thirty (30) calendar days of completion of the cleanup action
23 (demobilization) for RAU 2C.

1 6.7 The Army shall submit the following deliverables in support of **RAU 3** for
2 Ecology review and approval in accordance with the schedule shown below:

- 3 A. Draft Field Work Report submitted to Ecology within sixty (60) calendar days of
4 the completion of field work for RAU 3.
- 5 B. Draft MTCA Remedial Investigation/Feasibility Study (RI/FS) Report submitted
6 to Ecology within five (5) months of the issue date of the final Field Work Report
7 for RAU 3.
- 8 C. Draft Cleanup Action Plan (CAP) submitted to Ecology within sixty (60) calendar
9 days of the issue date of the final MTCA RI/FS Report for RAU 3.
- 10 D. Draft Compliance Monitoring Plan submitted to Ecology within thirty (30)
11 calendar days of the issue date of the final CAP for RAU 3.
- 12 E. If required pursuant to chapter 173-340 WAC, then a draft Operation and
13 Maintenance Plan shall be submitted to Ecology within one (1) year of the issue
14 date of the final CAP for RAU 3.
- 15 F. If required pursuant to chapter 173-340 WAC, then a draft Institutional Control
16 Plan shall be submitted to Ecology within one (1) year of the issue date of the
17 final CAP for RAU 3.
- 18 G. Draft UXO Findings Report, described in Section 6.30, submitted to Ecology
19 within ninety (90) calendar days of completion of the cleanup action
20 (demobilization) for RAU 3.

1 6.8 In support of the **investigation and monitoring of ground water** throughout the
2 Site, the Army shall submit the following deliverables for Ecology review and approval in
3 accordance with the schedule shown below:

- 4 A. Final Site-Wide Ground Water Investigation Work Plan submitted to Ecology
5 within thirty (30) calendar days of the effective date of this Order.
- 6 B. Draft Field Work Report submitted to Ecology within thirty (30) calendar days of
7 the completion of the field work.
- 8 C. Draft Long-Term Monitoring and Contingency Plan submitted to Ecology within
9 thirty (30) calendar days of the issue date of the final Field Work Report.

10
11 **Submittal of Deliverables**

12 6.9 In accordance with WAC 173-340-840(2), the Army shall submit to Ecology an
13 electronic copy and three (3) hard copies of each deliverable identified in this Order (including
14 both draft and draft final documents). The electronic copy must be submitted in a format
15 compatible with, and approved by, Ecology. Ecology may require additional copies to meet
16 public participation and interagency coordination needs.

17
18 **Review, Comment, and Approval Process for Deliverables**

19 6.10 The Army shall submit deliverables to Ecology in accordance with the schedule
20 set forth herein. From the date Ecology receives the draft document, the following process will
21 ensue:

- 22 A. Within thirty (30) calendar days of receiving the Army's draft document, Ecology
23 will provide the Army with comments.
- 24 B. Within thirty (30) calendar days of receiving Ecology's comments, the Army will
25 submit to Ecology a "draft final" document along with a response to comments
26 identifying how comments were addressed.

- 1 C. Within thirty (30) calendar days of receiving the Army's draft final document and
2 response to comments on the draft document, Ecology will notify the Army in
3 writing of whether the draft final document adequately addresses Ecology's
4 comments on the draft document.
- 5 D. If Ecology identifies inadequacies in the draft final document and/or the response
6 to comments, then Ecology will, at its discretion, either revise and approve the
7 document or require the Army to revise and resubmit the document within a
8 specified period of time for approval.
- 9 E. If Ecology does not identify inadequacies in the draft final document or the
10 response to comments, then Ecology will, at its discretion, approve the draft final
11 document. A draft final document only becomes "final" upon Ecology approval.
- 12 F. In accordance with WAC 173-340-430(6), prior to the approval of a draft final
13 interim action work plan, Ecology will provide public notice and opportunity for
14 comment on the document and proposed interim action as required under WAC
15 173-340-600(16). After review and consideration of the comments received
16 during the public comment period, Ecology will, at its discretion, either approve
17 the document or require the Army to revise and resubmit the document within a
18 specified period of time for approval.
- 19 G. In accordance with WAC 173-340-350(5), prior to approval of a draft final
20 MTCA remedial investigation or feasibility study report, Ecology will provide or
21 require public notice and opportunity to comment on the document, as required
22 under WAC 173-340-600(13). After review and consideration of the comments
23 received during the public comment period, Ecology will, at its discretion, either
24 approve the document or require the Army to revise and resubmit the document
25 within a specified period of time for approval.
26

1 H. In accordance with WAC 173-340-380(2), prior to approval of a draft final CAP,
2 Ecology will provide public notice and opportunity for comment on the
3 document, as required under WAC 173-340-600(14). After review and
4 consideration of the comments received during the public comment period,
5 Ecology will, at its discretion, either approve the document or require the Army to
6 revise and resubmit the document within a specified period of time for approval.

7 6.11 Ecology may extend the thirty (30) calendar day period for reviewing and
8 commenting on a document by providing oral or written notification to the Army, prior to
9 expiration of the thirty (30) calendar day period. Ecology will provide an estimate of the time
10 required for completion of its review.

11 6.12 The Army may request an extension of the thirty (30) calendar day period for
12 submitting a document and responses to comments by providing written notification to Ecology
13 prior to expiration of the thirty (30) calendar day period. Any request for an extension by the
14 Army shall specify:

- 15 A. The deadline that is sought to be extended;
- 16 B. The length of the extension sought;
- 17 C. The cause(s) for the extension; and
- 18 D. Any related deadline or schedule that would be affected if the extension were
19 granted.

20 6.13 The burden will be on the Army to demonstrate to the satisfaction of Ecology that
21 good cause exists for granting an extension. Good cause includes, but is not limited to, an event
22 of force majeure. An event of force majeure shall include, but is not limited to, the following:

- 23 A. Circumstances beyond the reasonable control and despite the due diligence of the
24 Army, including delays caused by unrelated third parties or Ecology, such as (but
25 not limited to) delays by Ecology in reviewing, approving, or modifying
26 documents submitted by the Army; or

1 B. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other
2 unavoidable casualty.

3 6.14 An extension shall only be granted for such period of time as Ecology determines
4 is reasonable under the circumstances. A requested extension shall not be effective until
5 approved by Ecology. Ecology shall act upon any written request for an extension in a timely
6 fashion and provide the Army written notification of any extensions granted pursuant to this
7 Order. It shall not be necessary to formally amend this Order when a schedule extension is
8 granted.

9
10 **Enforceability and Implementation of Deliverables**

11 6.15 Upon approval by Ecology, each of the deliverables identified in this Order shall
12 be incorporated by reference and become an integral and enforceable part of this Order, and shall
13 be implemented by the Army in accordance with its terms and schedules, and in accordance with
14 the applicable laws and CAPs.

15
16 **Remedial Investigation Work Plans**

17 6.16 The MTCA Remedial Investigation Work Plan prepared for a RAU shall
18 conform to the requirements in chapter 173-340 WAC and shall include, but shall not be limited
19 to, the following plans:

- 20 A. Work Plan;
21 B. Health and Safety Plan;
22 C. Sampling and Analysis Plan;
23 D. Quality Assurance Plan; and
24 E. Data Management Plan.

Sampling

6.17 The Army shall allow split or replicate samples to be taken by Ecology and shall provide Ecology notification ten (10) working days before any sampling activity, except during an emergency. If an emergency exists, prompt oral notification shall be given of the emergency and of the Army's intent to collect samples. A written summary of actions taken during the emergency shall be provided to Ecology within ten (10) working days.

Laboratory Accreditation

6.18 In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under chapter 173-50 WAC for the specific analyses to be conducted, unless otherwise approved by Ecology.

Sampling Data Submittal

6.19 The Army shall submit validated analytical data to Ecology within thirty (30) calendar days of the initial receipt by the Army, its consultants, contractor, or subcontractor of non-validated analytical data from the laboratory. The submittal of validated analytical data shall also include a list of hazardous substances analyzed for, but not detected. The Army shall submit both an electronic copy and a hard copy of the validated analytical data to Ecology. The electronic copy shall be submitted in a format compatible with Ecology's data management system. The Army shall submit analytical backup documentation to Ecology within ten (10) working days after receipt of Ecology's written request. If preliminary analysis of samples indicates a potential imminent and substantial endangerment to the public health, then the Army shall notify Ecology immediately.

6.20 The Army may request an extension of the thirty (30) calendar day period for submitting validated laboratory data by providing written notification to Ecology prior to the expiration of the thirty (30) calendar day period, specifying the following:

- A. The deadline that is sought to be extended;
- B. The length of the extension sought;
- C. The cause(s) for the extension; and
- D. Any related deadline or schedule that would be affected.

6.21 Ecology may grant the requested extension if Ecology determines that good cause exists and if the Army submits non-validated analytical data with ten (10) working days after receipt of Ecology's written request.

Field Data Submittal

6.22 The Army shall provide to Ecology within five (5) working days after receipt of Ecology's written request a copy of all field investigation notes covering the specified task and period of field activity.

Records Submittal

6.23 In accordance with WAC 173-340-850, the Army shall submit a copy of any requested records relevant to this Order within thirty (30) calendar days after receipt of Ecology's written request.

6.24 The Army may extend the thirty (30) calendar day period for an additional thirty (30) calendar days by providing written notification to Ecology, prior to the expiration of the initial thirty (30) calendar day period.

Reporting of Releases

6.25 In accordance with WAC 173-340-300, the Army shall notify Ecology in writing of any discovery of a release, including the discovery of any previously unidentified area of military munitions, within thirty (30) calendar days of the discovery. In accordance with WAC 173-340-310, Ecology shall conduct an initial investigation within ninety (90) calendar days of

1 notice of the release to determine whether further remedial action is required to address the
2 release. Within thirty (30) calendar days of the completion of the initial investigation, Ecology
3 shall notify the Army of its determination. If Ecology determines that further remedial action is
4 required, then Ecology shall also notify the Army of what remedial action is required to address
5 the release. Ecology may require any release discovered after the effective date of this Order to
6 be addressed as part of an existing remedial action unit or as a separate remedial action unit.
7 Any such requirement will become an integral and enforceable part of this Order.
8

9 **Interim Actions – RAU 2A**

10 6.26 The Army shall conduct the following interim actions for RAU 2A for the
11 purpose of reducing the threat to human health and the environment associated with lead and
12 other contamination located in some of the small arms ranges identified and illustrated in
13 Attachment C:

- 14 A. Within sixty (60) calendar days of the effective date of this Order, develop and
15 submit to Ecology for review and approval a draft Interim Action Work Plan for
16 RAU 2A. The Work Plan shall meet the submittal requirements in WAC 173-
17 340-430(7). The Work Plan shall identify those small arms ranges to be
18 addressed as part of the interim action. For those ranges with identified target
19 zones with berms, the Work Plan shall include, but shall not be limited to, plans
20 to excavate and appropriately dispose of contaminated soil in those berms. For
21 those ranges with identified firing lines, the Work Plan shall include, but shall not
22 be limited to, plans to investigate and to excavate and appropriately dispose of, if
23 necessary, contaminated soil in the muzzle blast zone. The draft Work Plan shall
24 be subject to the review, comment, and approval process in Section 6.10 of this
25 Order.
26

- 1 B. Within six (6) months of the issue date of the final Interim Action Work Plan for
2 RAU 2A, complete the interim actions set forth in the Work Plan.

3
4 **Interim Actions – RAU 2C**

5 6.27 The Army shall conduct the following interim actions for RAU 2C for the
6 purpose of reducing the threat to human health and the environment associated with the
7 contamination associated with Landfill Area 4 / Demolition Area 1:

- 8 A. Within sixty (60) calendar days of the effective date of this Order, develop and
9 submit to Ecology for review and approval a draft Interim Action Work Plan for
10 RAU 2C. The Work Plan shall meet the submittal requirements in WAC 173-
11 340-430(7). The Work Plan shall include, but shall not be limited to, plans to
12 excavate and appropriately dispose of materials contained in and contaminated
13 soils associated with Landfill Area 4 / Demolition Area 1. The draft Work Plan
14 shall be subject to the review, comment, and approval process in Section 6.10 of
15 this Order.

- 16 B. Within six (6) months of the issue date of the final Interim Action Work Plan for
17 RAU 2C, complete the interim actions set forth in the Work Plan.

18
19 **Interim Actions – Future**

20 6.28 In accordance with WAC 173-340-310 and 173-340-430, Ecology may require
21 the Army to conduct other interim actions at the Site in the future based on information obtained
22 from remedial actions conducted under this Order. The Army may also propose any interim
23 action consistent with WAC 173-340-430.

1 **Cleanup Action Report**

2 6.29 The Cleanup Action Report prepared for a RAU shall include, but shall not be
3 limited to, the following information:

- 4 A. Summary of any remedial investigations conducted;
5 B. Summary of any cleanup actions conducted;
6 C. Results of any cleanup actions conducted; and
7 D. Results of any compliance monitoring conducted.
8

9 **UXO Findings Report**

10 6.30 The UXO Findings Report prepared for RAU 3 shall include a description of each
11 item of UXO found at the Site during the investigation and cleanup of the Site, including items
12 of UXO found during an investigation or cleanup conducted under a RAU other than RAU 3.
13 The description of each item of UXO shall include, but shall not be limited to, the following
14 information:

- 15 A. Identification of the UXO item;
16 B. Description of the fusing condition of the UXO item; and
17 C. Description of the location and depth of the UXO item.
18

19 **Periodic Reviews**

20 6.31 In accordance with WAC 173-340-420(3), if a periodic review of a remedial
21 action unit at the Site is required under WAC 173-340-420(2), then Ecology will conduct a
22 periodic review of that remedial action unit at least every five years after the initiation of the
23 cleanup action for that remedial action unit to ensure that human health and the environment are
24 being protected. When evaluating whether human health and the environment are being
25 protected, Ecology will consider the factors specified in WAC 173-340-420(4).
26

1 6.32 In accordance with WAC 173-340-420(3), the Army shall submit information
2 required by Ecology to conduct a periodic review and to make determinations, based on the
3 periodic review, as to whether additional action or modification of the cleanup action is required
4 and whether future periodic reviews are required.
5

6 **Progress Reports**

7 6.33 The Army shall submit to Ecology written quarterly progress reports that briefly
8 describe:

- 9 A. The actions it has taken during the previous quarter to implement the
10 requirements of this Order and to otherwise address the human health and
11 environmental concerns at the Site;
- 12 B. The actions scheduled to be taken during the next quarter;
- 13 C. All field and laboratory data packages received or generated by the Army, its
14 consultant, contractor, or subcontractor during the previous quarter, including all
15 validated and non-validated data;
- 16 D. The status of the schedule compliance;
- 17 E. Deliverables submitted and the dates of submittal;
- 18 F. Deliverables anticipated for submittal during the next quarter and the anticipated
19 dates of submittal;
- 20 G. Anticipated problems and proposed solutions, including technical, budget, and
21 scheduling implications;
- 22 H. Problems encountered and proposed solutions, including technical, budget, and
23 scheduling implications;
- 24 I. Problems resolved and the method of resolution, including technical, budget, and
25 scheduling implications; and
- 26 J. Key staffing changes

Project Coordinator Meetings

6.34 Project Coordinator meetings shall be held on a monthly basis. Additional Project Coordinator meetings may be held by agreement of both Ecology and the Army. Project Coordinator meetings shall include a discussion of the topics required to be addressed as part of the Quarterly Progress Reports (see Section 6.33).

Due Dates

6.35 If the final day of any time period falls on a Saturday, Sunday, or a state or federal legal holiday, the time period shall be extended to the next working day. Any time period scheduled to begin on the occurrence of an act or event shall begin on the day after the act or event. The deliverable due date shall be considered satisfied if the deliverable is received electronically on the date due, and the “original” hard copy is received within two (2) working days.

VII. TERMS AND CONDITIONS OF THIS ORDER

7.1 Definitions.

Unless otherwise specified, the definitions set forth in chapter 70.105D RCW and chapter 173-340 WAC shall control the meanings of the terms used in this Order.

Additional definitions are as follows:

A. “Dangerous wastes” means any dangerous waste as defined at RCW 70.105.010(5) and any dangerous waste designated by rule pursuant to chapter 70.105 RCW, including, as defined in WAC 173-303-040, any solid waste designated in WAC 173-303-070 through 173-303-100 as dangerous waste, extremely hazardous waste, or mixed waste. Dangerous wastes are “hazardous substances” under RCW 70.105D.020(7)(a).

1 B. “Dangerous constituents” means, as defined in WAC 173-303-040 and 173-303-
2 646(1)(d), any constituent identified in WAC 173-303-9905 or 40 CFR Part 264 Appendix IX;
3 any constituent that caused a solid waste to be listed as a dangerous waste or to exhibit a
4 dangerous characteristic under chapter 173-303 WAC or to meet a dangerous waste criteria
5 under chapter 173-303 WAC; and any constituent defined as a hazardous substance under RCW
6 70.105D.020(7).

7 C. “Military munitions” means, as defined in WAC 173-303-040, all ammunition
8 products and components produced or used by or for the U.S. Department of Defense or the U.S.
9 Armed Services for national defense or security, including military munitions under the control
10 of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy, and
11 National Guard personnel. As further defined in WAC 173-303-040, the term “military
12 munitions” includes: Confined gaseous, liquid, and solid propellants, explosives, pyrotechnics,
13 chemical and riot control agents, smokes and incendiaries used by Department of Defense
14 components, including bulk explosives and chemical warfare agents, chemical munitions,
15 rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition,
16 small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and
17 dispensers, demolition charges, and devices and components thereof.

18 D. “Solid waste” means, as defined at WAC 173-303-016(3), any discarded material
19 that is not excluded by WAC 173-303-017(2) or that is not excluded by variance granted under
20 WAC 173-303-017(5), and includes military munitions identified as a solid waste at WAC 173-
21 303-578(2).

22 E. “Unexploded ordnance” or “UXO” means, as defined in WAC 173-303-040,
23 military munitions that have been primed, fused, armed, or otherwise prepared for action, and
24 have been fired, dropped, launched, projected, or placed in such a manner as to constitute a
25 hazard to operations, installation personnel, or material, and remain unexploded either by
26 malfunction, design, or any other cause.

1 7.2 Public Notices.

2 RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent
3 public notice. Ecology shall be responsible for providing such public notice and reserves the
4 right to modify or withdraw any provisions of this Order should public comment disclose facts
5 or considerations which indicate to Ecology that the Order is inadequate or improper in any
6 respect.

7 7.3 Remedial Action Costs.

8 A. Costs billed by Ecology pursuant to this Order shall be consistent with the
9 provisions of the Defense-State Memorandum of Agreement (DSMOA) entered into by the State
10 of Washington and Department of Defense on February 3, 1994, as amended.

11 B. In the event Ecology services/oversight activities are not fully funded by the
12 DSMOA, the Army shall pay to Ecology costs incurred by Ecology pursuant to this Order as
13 required by RCW 70.105D.040(2). These costs shall include work performed by Ecology or its
14 contractors for investigations, remedial actions, and Order preparation, oversight and
15 administration. Ecology costs shall include costs of direct activities and support costs of direct
16 activities as defined in WAC 173-340-550(2). The Army shall pay the required amount within
17 90 calendar days of receiving from Ecology an itemized statement of costs that includes a
18 summary of costs incurred, an identification of involved staff, and the amount of time spent by
19 involved staff members on the project. A general description of work performed will be
20 provided upon request. Itemized statements shall be prepared quarterly. Failure to pay
21 Ecology's costs within ninety (90) calendar days of receipt of the itemized statement of costs will
22 result in interest charges.

1 7.4 Designated Project Coordinators.

2 The project coordinator for Ecology is:

3 Name: Ben Forson
4 Address: Toxics Cleanup Program
 P.O. Box 47600
 Olympia, WA 98504-7600
5 Telephone: (360) 407-7227
6 Fax: (360) 407-7154
 E-mail: bfor461@ecy.wa.gov

7 The project coordinator for the Army is:

8 Name: Eric Waehling
9 Address: Public Works
 AFZH-PWE (MS-17)
 P.O. Box 339500
10 Fort Lewis, WA 98433-9500
11 Telephone: (253) 966-1732
 Fax: (253) 964-2488
12 E-mail: waehline@lewis.army.mil

13 The project coordinator(s) shall be responsible for overseeing the implementation of this
14 Order. To the maximum extent possible, communications between Ecology and the Army, and
15 all documents, including reports, approvals, and other correspondence concerning the activities
16 performed pursuant to the terms and conditions of this Order, shall be directed through the
17 project coordinator(s). Should Ecology or the Army change project coordinator(s), written
18 notification shall be provided to Ecology or the Army at least ten (10) calendar days prior to the
19 change.

20 7.5 Performance.

21 All work performed pursuant to this Order shall be under the direction and supervision,
22 as necessary, of a professional engineer or hydrogeologist, or similar expert, with appropriate
23 training, experience and expertise in hazardous waste site investigation and cleanup. The Army
24 shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any
25 contractors and subcontractors to be used in carrying out the terms of this Order, in advance of
26 their involvement at the Site. The Army shall provide a copy of this Order to all agents,

1 contractors and subcontractors retained to perform work required by this Order and shall ensure
2 that all work undertaken by such agents, contractors and subcontractors will be in compliance
3 with this Order.

4 Except where necessary to abate an emergency situation, the Army shall not perform any
5 remedial actions at the Site outside that required by this Order unless Ecology concurs, in
6 writing, with such additional remedial actions.

7 WAC 173-340-400(6)(b)(i) requires that "construction" performed on the Site must be
8 under the supervision of a professional engineer or a qualified technician under the direct
9 supervision of a professional engineer. The professional engineer must be registered in the State
10 of Washington, except as provided in RCW 18.43.130.

11 Removal and/or disposal of UXO performed pursuant to this Order shall be under the
12 supervision of a site UXO supervisor (SUXOS) identified by the Army. The SUXOS must be an
13 "explosives or munitions emergency response specialist" as defined in WAC 173-303-040. The
14 Army shall notify Ecology as to the identity of the SUXOS. The Army shall provide a copy of
15 this Order to the SUXOS and shall ensure that all work undertaken to remove and/or dispose of
16 UXO will be in compliance with this Order.

17 7.6 Access.

18 Ecology or any Ecology authorized representative shall have the authority to enter and
19 freely move about the Site at all reasonable times for the purposes of, inter alia: inspecting
20 records, operation logs, and contracts related to the work being performed pursuant to this Order;
21 reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting
22 samples as Ecology or the project coordinator may deem necessary; using a camera, sound
23 recording, or other documentary type equipment to record work done pursuant to this Order; and
24 verifying the data submitted to Ecology by the Army. When entering the Site under chapter
25 70.105D RCW, Ecology shall provide reasonable notice prior to entering the Site unless an
26 emergency prevents notice. Where access to the Site is restricted due to the presence of military

munitions, the Army shall supply sufficient personnel trained in ordnance recognition and avoidance to enable Ecology or any Ecology authorized representative to carry out the purposes of this paragraph. Ecology shall allow split or replicate samples to be taken by the Army during an inspection unless doing so interferes with Ecology's sampling. The Army shall allow split or replicate samples to be taken by Ecology and shall provide Ecology notification ten (10) working days before any sampling activity.

7.7 Public Participation.

The Army shall prepare and/or update a draft public participation plan for the site. The draft plan shall be submitted to Ecology for review and approval within three (3) months of the effective date of this Order and shall be subject to the review, comment, and approval process in Section 6.10 of this Order. Ecology shall maintain the responsibility for public participation at the site. The Army shall help coordinate and implement public participation for the Site.

7.8 Retention of Records.

The Army shall preserve in a readily retrievable fashion, during the pendency of this Order and for ten (10) years from the date of completion of the work performed pursuant to this Order, all records, reports, documents, and underlying data in its possession relevant to this Order. Should any portion of the work performed hereunder be undertaken through contractors or agents of the Army, a record retention requirement meeting the terms of this paragraph shall be required of such contractors and/or agents.

7.9 Dispute Resolution.

The Army may request Ecology to resolve disputes which may arise during implementation of this Order. The procedures for resolving disputes are set forth below.

- A. Upon receipt of the Ecology project manager's decision, the Army has fourteen (14) calendar days within which to submit to the Ecology project manager a written objection to the decision.

- 1 B. After receipt of the Army's written objection, the project managers will confer in
2 an effort to resolve the dispute. If the project managers cannot resolve the dispute
3 within fourteen (14) calendar days of Ecology's receipt of the Army's written
4 objection, the Ecology project manager will issue a written decision.
- 5 C. After receipt of the Ecology project manager's written decision, the Army may
6 request review of the decision by Ecology management. The request must be
7 submitted in writing to Ecology's signatory, or his/her successor(s), to this Order
8 within seven (7) calendar days of receipt of the Ecology project manager's
9 decision.
- 10 D. Upon receipt of the Army's written request for review, Ecology's signatory to this
11 Order, or his/her successor(s), will conduct a review of the dispute, confer with
12 the Fort Lewis Garrison Commander or his/her local designate, and issue a
13 written decision regarding the dispute within thirty (30) calendar days. The
14 signatory's decision will be Ecology's final decision on the disputed matter.
15 Ecology resolution of the dispute shall be binding and final.

16 The Army is not relieved of any requirement of this Order during the pendency of the
17 dispute and remains responsible for timely compliance with the terms of the Order unless
18 otherwise provided by Ecology in writing. The Army may request that the time periods for
19 completing actions that could be affected by the outcome of the dispute be tolled during the
20 pendency of the dispute. Any such request shall be submitted in writing with the request for
21 dispute resolution.

22 7.10 Reservation of Rights/No Settlement.

23 Ecology reserves all rights to issue additional orders or take any action authorized by law
24 in the event or upon the discovery of a release or threatened release of hazardous substances not
25 addressed by this Order, upon discovery of any factors not known at the time of issuance of this
26

1 Order, in order to abate an emergency, or under any other circumstances deemed appropriate by
2 Ecology.

3 Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural
4 resources resulting from the releases or threatened releases of hazardous substances from the
5 Site.

6 In the event Ecology determines that conditions at the Site are creating or have the
7 potential to create a danger to the health or welfare of the people on the Site or in the
8 surrounding area or to the environment, Ecology may order the Army to stop further
9 implementation of this Order for such period of time as needed to abate the danger.

10 7.11 Transference of Property.

11 No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold,
12 or other interest in any portion of the Site shall be consummated by the Army without provision
13 for continued implementation of all requirements of this Order and implementation of any
14 remedial actions found to be necessary as a result of this Order.

15 Prior to transfer of any legal or equitable interest the Army may have in the Site or any
16 portions thereof, the Army shall serve a copy of this Order upon any prospective purchaser,
17 lessee, transferee, assignee, or other successor in such interest. At least thirty (30) calendar days
18 prior to finalization of any transfer, the Army shall notify Ecology of the contemplated transfer.

19 7.12 Compliance with Other Applicable Laws.

20 A. All actions carried out by the Army pursuant to this Order shall be done in
21 accordance with all applicable federal, state, and local requirements, including requirements to
22 obtain necessary permits, except as provided in paragraph B of this section.

23 B. Pursuant to RCW 70.105D.090(I), the substantive requirements of chapters 70.94,
24 70.95, 70.105, 75.20, 90.48, and 90.58 RCW and of any laws requiring or authorizing local
25 government permits or approvals for the remedial action under this Order that are known to be
26 applicable at the time of the issuance of any Cleanup Action Plan for any RAU shall be included

1 in the Cleanup Action Plan for that RAU and shall be binding and enforceable requirements of
2 the Order.

3 The Army has a continuing obligation to determine whether additional permits or
4 approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial
5 action under this Order. In the event the Army determines that additional permits or approvals
6 addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under
7 this Order, it shall promptly notify Ecology of this determination. Ecology shall determine
8 whether Ecology or the Army shall be responsible to contact the appropriate state and/or local
9 agencies. If Ecology so requires, the Army shall promptly consult with the appropriate state
10 and/or local agencies and provide Ecology with written documentation from those agencies of
11 the substantive requirements those agencies believe are applicable to the remedial action.
12 Ecology shall make the final determination on the additional substantive requirements that must
13 be met by the Army and on how the Army must meet those requirements. Ecology shall inform
14 the Army in writing of these requirements. Once established by Ecology, the additional
15 requirements shall be enforceable requirements of this Order. The Army shall not begin or
16 continue the remedial action potentially subject to the additional requirements until Ecology
17 makes its final determination.

18 Ecology shall ensure that notice and opportunity for comment is provided to the public
19 and appropriate agencies prior to establishing the substantive requirements under this section.

20 C. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the
21 exemption from complying with the procedural requirements of the laws referenced in RCW
22 70.105D.090(1) would result in the loss of approval from a federal agency which is necessary for
23 the State to administer any federal law, the exemption shall not apply and the Army shall comply
24 with both the procedural and substantive requirements of the laws referenced in RCW
25 70.105D.090(1), including any requirements to obtain permits.

VIII. SATISFACTION OF THIS ORDER

Satisfaction by Completion of Remedial Activity

8.1 The provisions of this Order shall be deemed satisfied upon the Army's receipt of written notification from Ecology that the Army has completed the remedial activity required by this Order, as amended by any modifications, and that all other provisions of this Order have been complied with.

Satisfaction by Transfer of Responsibility for Completion of Remedial Activity

8.2 Ecology understands that the Army and Clark County, Washington are contemplating the transfer of the Camp Bonneville Military Reservation, either in whole or in part, from the Army to Clark County prior to the completion of the remedial activity required by this Order. This transaction will be conducted pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9620(h)(3)(C) (CERCLA early transfer). In conjunction with this CERCLA early transfer, Ecology anticipates that Ecology and Clark County will enter into a Prospective Purchaser Consent Decree (PPCD) under RCW 70.105D.040(5)(a) that will transfer cleanup responsibility from the Army to Clark County and ensure the cleanup of the Site.

8.3 If Ecology and Clark County enter into a PPCD under RCW 70.105D.040(5)(a) and the PPCD is filed with the Clark County superior court, then the provisions of this Order may be terminated, and thereby deemed satisfied, as follows:

- A. If the PPCD addresses the cleanup of the entire Site, then this Order in its entirety shall be terminated.
- B. If the PPCD does not address the cleanup of the entire Site, then only the provisions of this Order that apply to the area of the Site addressed by the PPCD shall be terminated.

8.4 No provision of this Order shall be terminated, and thereby deemed satisfied, until the Army's receipt of written notification from Ecology of that termination.

8.5 The termination of the provisions of this Order, either in whole or in part, shall not change the status of the Army as a potentially liable person for the Site.

IX. ENFORCEMENT

9.1 Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

C. In the event the Army refuses, without sufficient cause, to comply with any term of this Order, the Army will be liable for:

(1) up to three times the amount of any costs incurred by the state of Washington as a result of its refusal to comply; and

(2) civil penalties of up to \$25,000 per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70.105D.060.

9.2 Effective date of this Order: **February 4, 2003**

BY: _____ DATE: _____

Tim Nord, Section Manager
Toxics Cleanup Program
Washington Department of Ecology

Attachment A

Regional Map

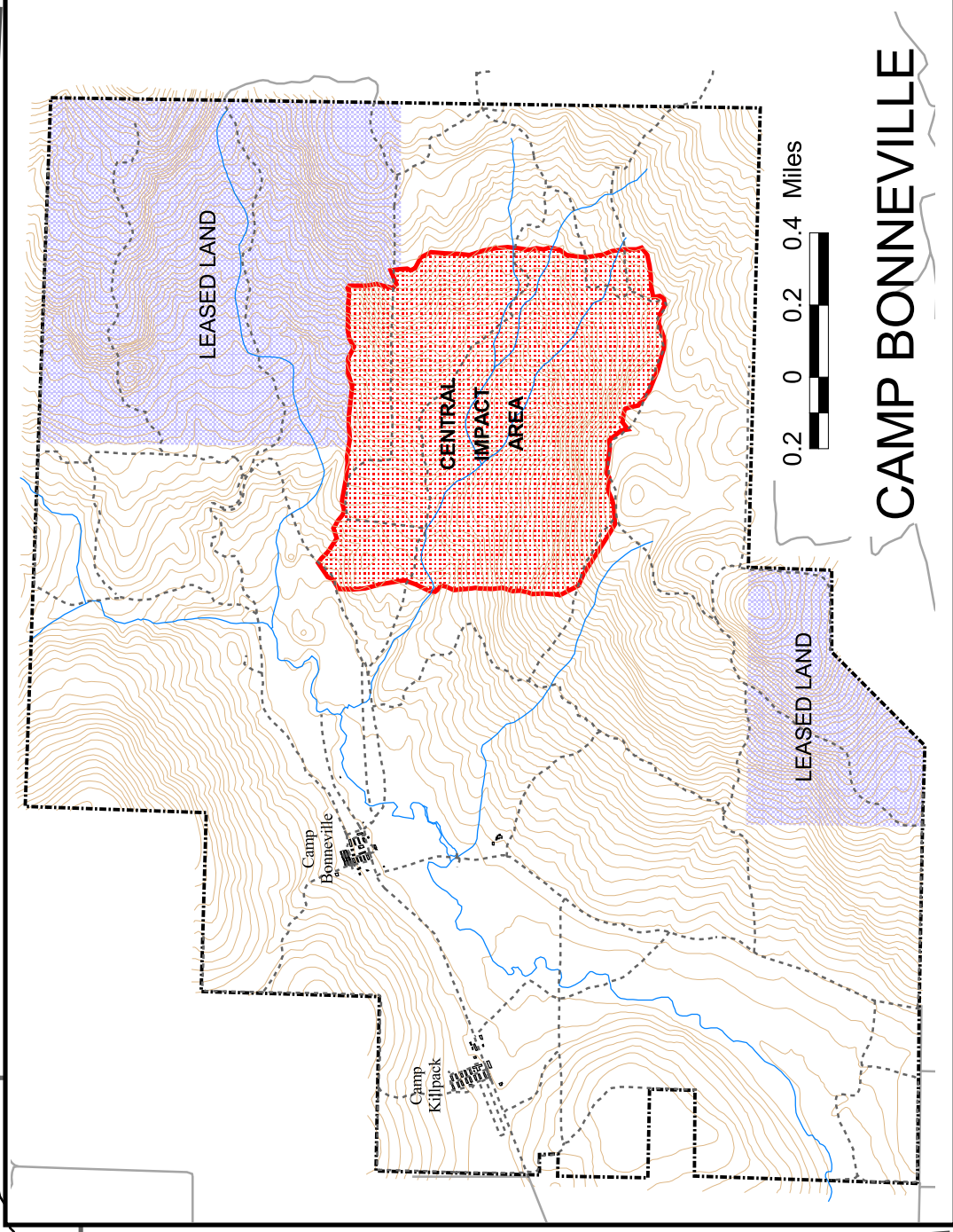
WASHINGTON STATE

CLARK COUNTY

Camp Bonneville

Vancouver

Portland



REGIONAL MAP

Camp Bonneville

CAMP BONNEVILLE

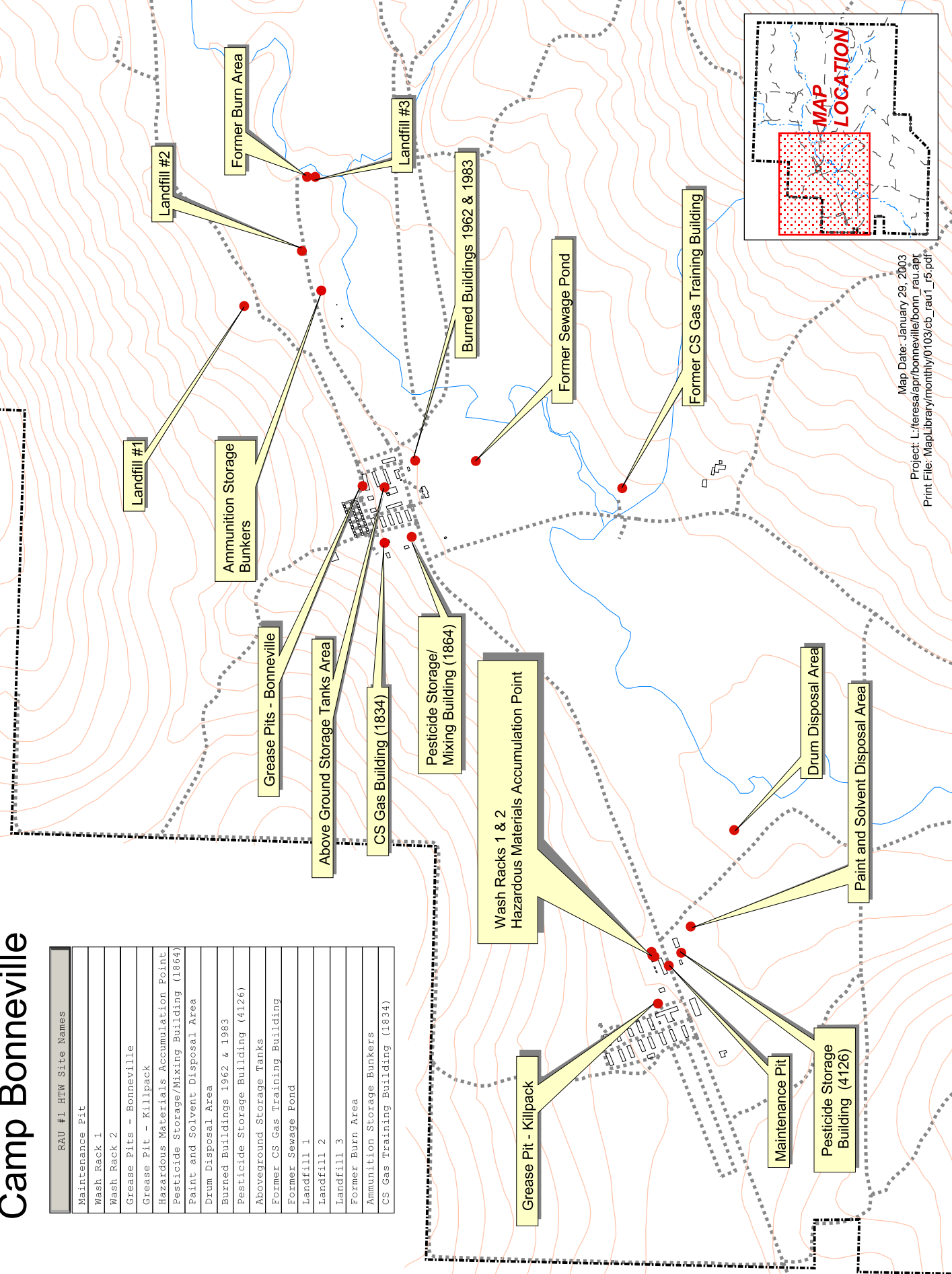
Attachment B

Map of RAU 1

REMEDIAL ACTION UNIT #1

Camp Bonneville

RAU #1 HTW Site Names
Maintenance Pit
Wash Rack 1
Wash Rack 2
Grease Pits - Bonneville
Grease Pit - Killpack
Hazardous Materials Accumulation Point
Pesticide Storage/Mixing Building (1864)
Paint and Solvent Disposal Area
Drum Disposal Area
Burned Buildings 1962 & 1983
Pesticide Storage Building (4126)
Aboveground Storage Tanks
Former CS Gas Training Building
Former Sewage Pond
Landfill 1
Landfill 2
Landfill 3
Former Burn Area
Ammunition Storage Bunkers
CS Gas Training Building (1834)

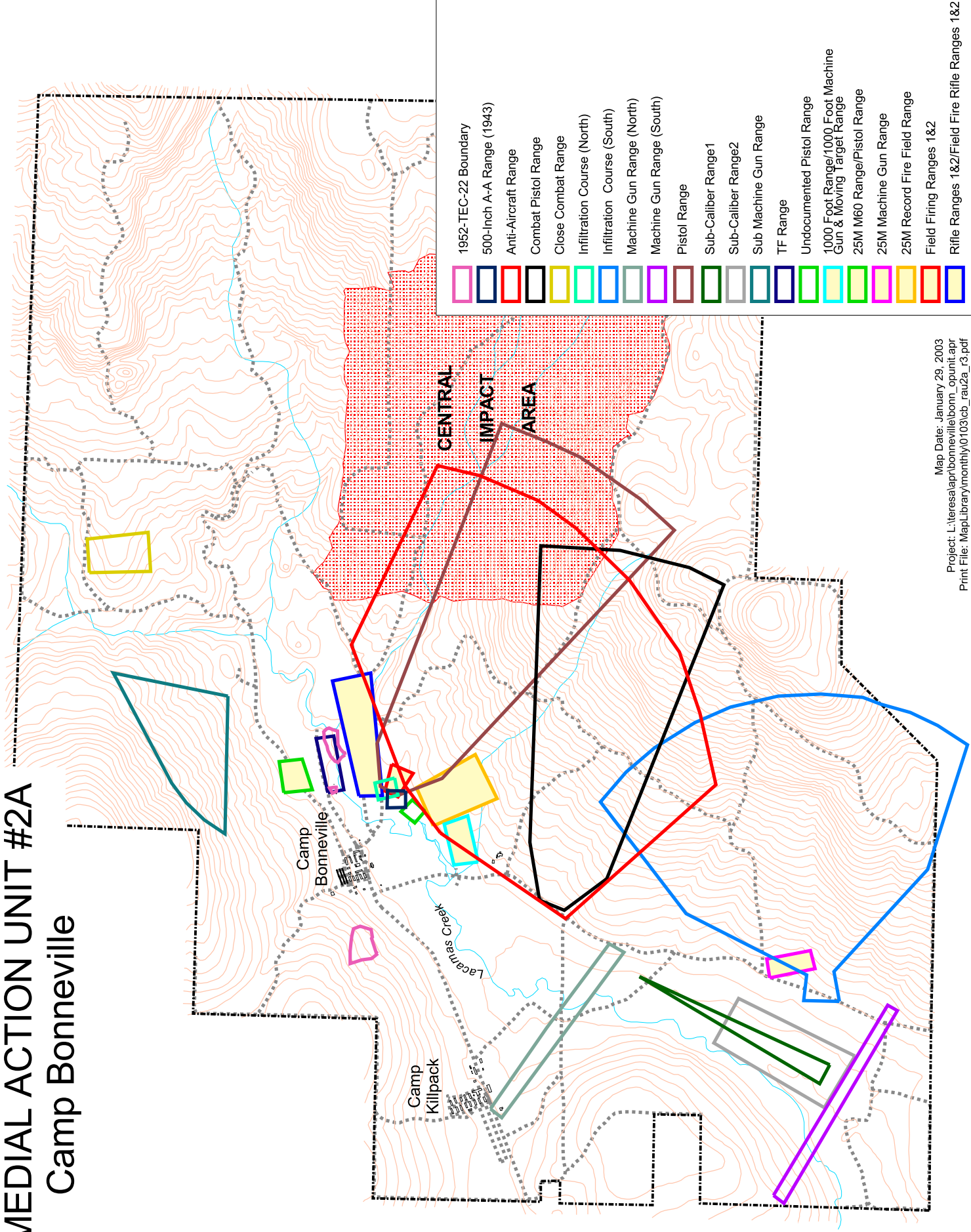


Attachment C

Map of RAU 2A

REMEDIAL ACTION UNIT #2A

Camp Bonneville



Attachment D

Map of RAU 2B

REMEDIAL ACTION UNIT #2B

Camp Bonneville

Camp Bonneville

Camp Killpack

Lacamas Creek

CENTRAL
IMPACT
AREA

4 Wells

Demo Area #2

Demo Area #3

GAS PIPELINE

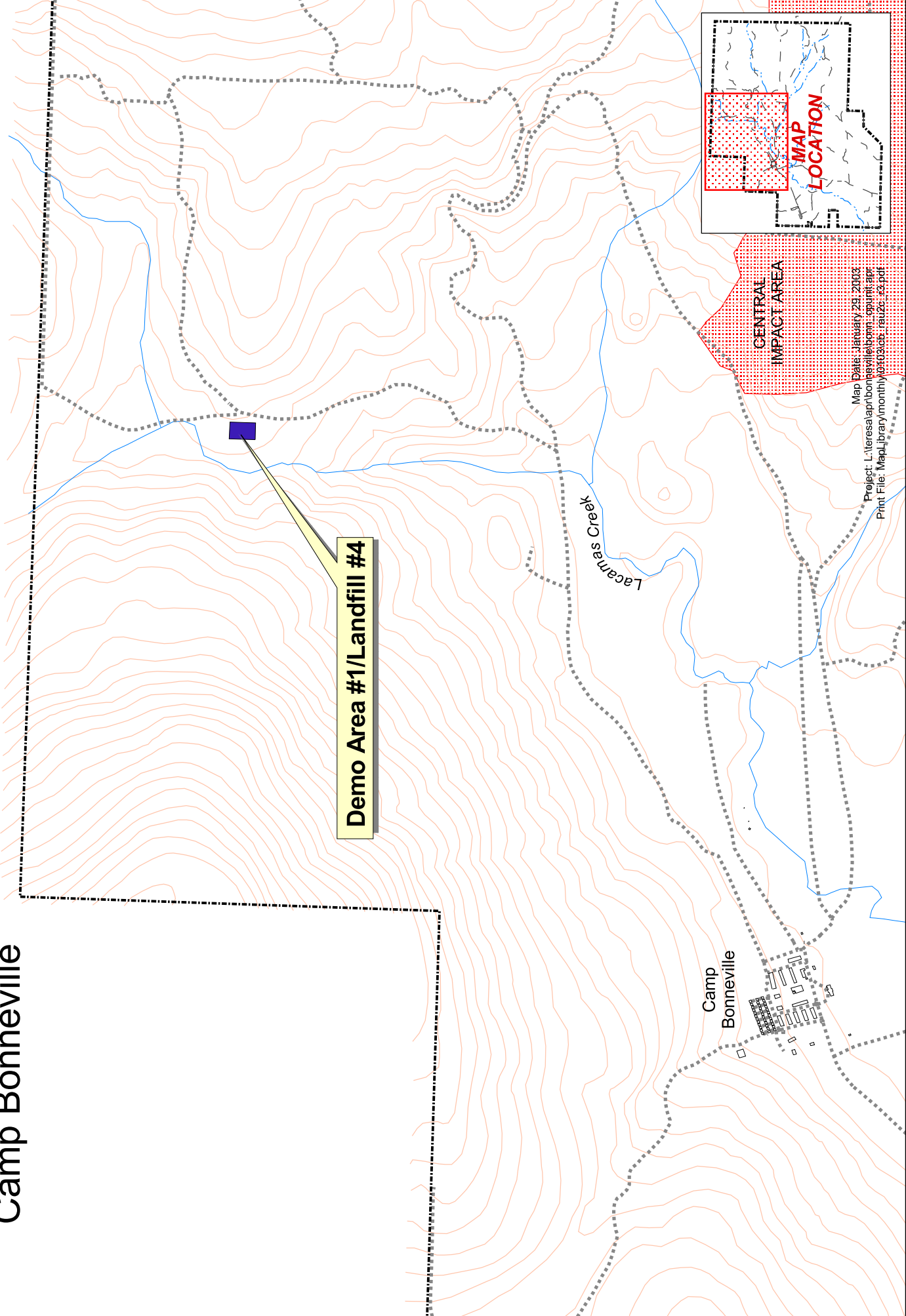
MAP
LOCATION

Attachment E

Map of RAU 2C

REMEDIAL ACTION UNIT #2C

Camp Bonneville



Map Date: January 29, 2003
Project: L:\eresalpr\bonneville\son: gprint.rpt
Print File: MapLibrary\month\03\03_01_03.rau2_c3.pdf

Attachment F

Map of RAU 3

Artillery Firing Point	Artillery Safety Fan	Mortar Firing Point	Mortar Safety Fan
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